17

PATENT CLAIMS

1. Method of speech recognition in order to identify a speech command as a match to a written text command, and comprising steps of:

- providing a text input from a text database;
5
- receiving an acoustic input;
- generating sequences of multilingual phoneme symbols based on said text input by means of a multilingual text-to phoneme module;
- generating pronunciations in response to said sequences of multilingual phoneme symbols; and
10
- comparing said pronunciations with the acoustic input in order to find a match.

2. Method according to claim 1 wherein the text input is processed letter by letter, and wherein a neural network provides an estimate of the posterior
15 probabilities of the different phonemes for each letter.

3. Method according to claim 1 comprising deriving said text input from a database containing user entered text strings.

20 4. System for speech recognition and comprising:
- a text database for providing a text input;
- transducer means for receiving an acoustic input;
- a multilingual text-to phoneme module for outputting sequences of multilingual phoneme symbols based on said text input;
25
- pronunciation lexicon module receiving said sequences of multilingual phoneme symbols from said multilingual text-to phoneme module, and for generating pronunciations in response thereto; and
- a multilingual recognizer based on multilingual acoustic phoneme models for comparing said pronunciations generated by the
30 pronunciation lexicon module with the acoustic input in order to find a match.

18

5. System according to claim 4, wherein the multilingual text-to phoneme
module processes said text input letter by letter, and comprises a neural
network for giving an estimate of the posterior probabilities of the different
5   phonemes for each letter.

6. System according to claim 5 wherein the neural network is a standard fully
connected feed-forward multi-layer perceptron neural network.

10   7. System according to claim 4 wherein the text input is derived from a
database containing user entered text strings.

8. System according to claim 7 wherein the database containing user entered
text strings is an electronic phonebook including phone numbers and
15   associated name labels.

9. Communication terminal having for speech recognition unit comprising:
   • a text database for providing a text input;
   • transducer means for receiving an acoustic input;
20   • a multilingual text-to phoneme module for outputting sequences of
     multilingual phoneme symbols based on said text input;
   • pronunciation lexicon module receiving said sequences of multilingual
     phoneme symbols from said multilingual text-to phoneme module, and
     for generating pronunciations in response thereto; and
25   • a multilingual recognizer based on multilingual acoustic phoneme
     models for comparing said pronunciations generated by the
     pronunciation lexicon module with the acoustic input in order to find a
     match.

30   10. Communication terminal according to claim 9, wherein the multilingual
text-to phoneme module processes said text input letter by letter, and

19

comprises a neural network for giving an estimate of the posterior probabilities
of the different phonemes for each letter.

11. Communication terminal according to claim 10 wherein the neural network
is a standard fully connected feed-forward multi-layer perceptron neural
network.

12. Communication terminal according to claim 9 wherein the text input is
derived from a database containing user entered text strings.

13. Communication terminal according to claim 12 wherein the database
containing user entered text strings is an electronic phonebook including
phone numbers and associated name labels.